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09/658,134	09/08/2000	Tae In Yoon	HI-014	3539

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FLESHNER & KIM, LLP	GAUTHIER, GERALD

FLESHNER & KIM, LLP	ART UNIT	PAPER NUMBER
P.O. BOX 221200	2645	17
CHANTILLY, VA 20153		

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _20 January 2004_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-16 and 19-34_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-5, 13-15, 19-28 and 32-34_ is/are rejected.

7)☒ Claim(s) _6-12, 16 and 29-31_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1.   **Claims 6-11 and 16** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 29-31 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   **Claims 1, 4-5, 13, 15 and 27-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matern et al. (US 5,592,473) in view of Schouhamer Immink et al. (US 4,593,395) and in further view of Bachhuber et al. (US 5,036,318).

Regarding **claim 1**, Matern discloses a private branch exchange system (column 1, lines 11-14), (which reads on claimed "a voice mail service system for a private switching system"), comprising:

a system matching circuit (201 on FIG. 6) and a system matching section (12 on FIG. 6) configured to couple to a private switching system (14 on FIG. 1), which is a system of higher rank, so as to interface all information in relation to a call (column 14, line 32 "the incoming call") and a management of the call (column 15, line 30 "data supplied by the incoming call") including call-related messages, exchanging voice messages (column 15, line 17 "message exchange"), recording and reproduction of processed voice data (column 15, line 29 "the voice mail system") and perform interfacing for communication between a control section (12 on FIG. 6) and the private switching system, which is a system of higher rank (column 15, lines 22-33) [The control means directs the call to the voice mail system and data supplied by the incoming call is stored into storage means];

a voice data memory (30 on FIG. 4) to provide a voice mail function (column 12, line 11 "voice mail"), and to store voice guide information in an address sector (column 12, lines 15 "dedicated voice time slots") of a corresponding channel (column 12, lines 11-19) [The voice guide information transmitted with the message are stored in the primary storage device and the compressed voice data is stored in a digital secondary storage];

a voice and signal processor (50 on FIG. 6) to store voice data (column 10, line 20 "data") of the extension subscriber in the voice data memory and retrieve it so that

the voice data can be transmitted (column 10, lines 20-29) [The microprocessor

accesses and controls the storage means to store the data values];

a communication controller (12 on FIG. 4) to manage a state of each channel

matching (column 9, line 14 "a desired time slot") with the private switching system

(column 9, lines 9-15), which is a system of higher rank, wherein the communication

controller automatically determines a busy or nonresponsive state of the subscriber in

response to an incoming communication from a terminal and transfers the call to the

system matching circuit and system matching section (column 16, lines 36-44)[The

control means determines after a predetermined amount of time sends the caller a

message of the status of the call]; and

a control circuit (12 on FIG. 4) to match with the private switching system, which

is a system of higher rank, to control an operation for maintaining the voice mail

function (column 7, lines 9-26) [The control means is able to control the operation of the

PBX on various functions such a voice mail].

Matern fails to disclose a process channel errors.

However, Schouhamer teaches a process channel errors, and maintain and

repair the channel (column 6, lines 4-30).

It would have been obvious to one of the ordinary skill in the art at the time the

invention was made to use the error correction method for the transfer of word-wise

arranged data of Schouhammer in the control means peripheral of Matern.

The modification of the invention would offer the capability of the error correction method for the transfer of word-wise arranged data such as the system would combine the redundancy introduced into data transfer with the error correction.

Matern discloses a switching means system but Matern and Schouhamer fail to disclose the private switching system, which is a system of higher rank.

However, Bachhuber teaches the private switching system, which is a system of higher rank (column 1, lines 14-29) [The program-control module in the switching unit hierarchy which ranks higher over the program, constructs a system bus connecting all the program].

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the system of higher rank of Bachhuber in the invention of Matern and Schouhamer.

The modification of the invention would offer the capability of the system of higher rank such as the system would take the different number and type of program control modules for error output equipment.

Regarding **claim 4**, Matern discloses an interface section to interface with the private switching system (54 on FIG. 6);

a buffer to store data transmitted to and received from the private switching system in a prescribed protocol (62 on FIG. 6); and

a memory to store call-related messages and data transmitted or received between the private switching system and the control circuit (64 on FIG.6).

Regarding **claim 5**, Matern discloses wherein the voice data memory has a prescribed storage capacity, which is expandable (column 12, lines 4-19).

Regarding **claim 13**, Matern discloses wherein the voice memory provides the voice mail to each extension subscriber of the private switching system and stores voice guide information of the extension subscriber, and wherein the voice and signal processor stores voice data of the extension subscriber to transmit to an incoming caller (column 5, lines 2-15).

Regarding **claim 15**, Matern discloses wherein the private switching system is a system of higher rank than the voice mail system (column 6, lines 29-37).

Regarding **claim 21**, Matern discloses wherein the subscriber's message is compressed prior to being set in the data memory, and is decompressed prior to transmitting to the terminal (column 11, lines 32-57).

Regarding **claim 22**, Matern discloses wherein the network is a private switching system and the message is a voice message (column 12, lines 1-19).

Regarding **claim 27**, Matern discloses the memory is a common memory (column 12, lines 4-19).

Regarding **claim 28**, Matern discloses the voice data memory is configured to be expanded by a unit of memory bank (column 12, lines 4-19).

4.   **Claims 2-3, 12, 14, 20 and 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of Schouhamer in view of Bachhuber and in further view of Hersh et al. (US 6,205,206).

Regarding **claim 2**, Matern, Schouhamer and Bachhuber as applied to **claim 1** differ from **claim 2**, in that it fails to disclose the voice mail service system is a line card.

However, Hersh teaches the voice mail service system is a line card, configured to couple to the private switching system (column 2, lines 45-53).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the line card of Hersh in the invention of Matern, Schouhamer and Bachhuber.

The modification of the invention would offer the capability of the system of a line card such as the system would integrated the voice mail into lower end of the PBX to reduce the cost.

Regarding **claim 3**, Hersh teaches the line card accommodates a prescribed number of extension subscribers, and wherein an increase in a number of line cards

can increase a number of extension subscribers capable of being served with the voice

mail service (column 6, lines 41-50).

Regarding **claim 14**, Matern discloses the connection to the private switching

system is over a parallel bus (54 on FIG. 6).

Regarding **claim 20**, Hersh teaches wherein the data memory, the system

matching section, the control section and the signal processor comprise a line card for

providing the message service (column 2, lines 45-53).

Regarding **claim 33**, Matern discloses the connection to the private switching

system is over a serial bus (column 6, lines 29-37).

5.   **Claims 19 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Matern in view of Schouhamer, in view of Bachhuber and in further view of

Brunson (US 5,329,579).

Regarding **claims 19 and 26**, Matern, Schouhamer and Bachhuber as applied to

claim 1 differ from **claims 19 and 26**, in that it fails to disclose the signal processor

compresses the voice data.

However, Brunson teaches the signal processor compresses the voice data prior to it being stored, and decompresses the compressed voice data prior to it being transmitted (column 8, lines 34-42).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the signal processor compresses the voice data of Brunson in the invention of Matern, Schouhamer and Bachhuber.

The modification of the invention would offer the capability of the signal processor compresses the voice data such as the system would perform a set of requisite functions.

6.   **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of Schouhamer in view of Bachhuber and in further view of LaRocca (US 6,069,888).

Regarding **claim 23**, Matern, Schouhamer and Bachhuber as applied to **claim 22** differ from **claim 23** in that it fails to disclose the voice message is transmitted to the terminal through a vocoder.

However, LaRocca teaches wherein the signal processor includes a voice processor and the voice message is transmitted to the terminal through a vocoder (column 3, lines 49-58).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the voice message is transmitted to the terminal through a vocoder of LaRocca in the invention of Matern, Schouhamer and Bachhuber.

The modification of the invention would offer the capability of the system of the voice message is transmitted to the terminal through a vocoder such as the system would packetized pulse code modulation signals for a better transmission of the signal.

7.   **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Matern in view of Schouhamer, in view of Bachhuber, in view of LaRocca and in further view Hersh.

Regarding **claim 24**, Hersh discloses wherein the voice message service is provided to the private switching through a line card of the private switching system (column 2, lines 30-42).

8.   **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over Matern

in view of Schouhamer Immink et al. (US 4,593,395).

Regarding **claim 25**, Matern discloses a private branch exchange system

(column 1, lines 11-14), (which reads on claimed "a private switching system"),

comprising:

means directly and automatically determining a communication state (column 14,

line 28 "a signal") of a subscriber in response to an incoming communication (column

14, lines 29-40) [The detector means supply a signal to the control means and the voice

mail system is actuated];

means coupling call information and management of call information to a

switching system (column 14, lines 29-44) [The control means uses the extension

number supplied to cause the switching means to connect the incoming call];

means (30 on FIG. 4) storing voice mail information (column 12, line 11 "voice

mail"), and voice guide information (column 12, line 13 "storage means") in a memory

(column 12, lines 11-19) [The voice guide information transmitted with the message are

stored in the primary storage device and the compressed voice data is stored in a digital

secondary storage];

means (30 on FIG. 1) storing data relating to a subscriber in the memory (column

15, lines 22-33) [The control means directs the call to the voice mail system and data

supplied by the incoming call is stored into storage means];

means (12 on FIG. 6) retrieving data relating to the subscriber and transmitting the retrieve data (column 15, lines 22-25) [The control means evaluate the data supplied by the subscriber stored in the storage means];

means (12 on FIG. 4) managing a state of each channel matching (column 9, line 14 "a desired time slot") with the switching system (column 9, lines 9-15) [The control means cause data to be connected to a desired time slot]; and

means controlling and maintaining operation between the switching system and the voice mail service (column 7, lines 9-26) and a system matching section which interfaces all information in relation to a call (column 14, line 32 "the incoming call") and management of a call (column 15, line 30 "data supplied by the incoming call") including call-related messages, exchanging voice messages (column 15, line 17 "message exchange"), recording and reproduction of processed voice data (column 15, line 29 "the voice mail system") and performs interfacing for communication between a control section (12 on FIG. 6) and the private switching system (column 15, lines 22-25) [The control means evaluate the data supplied by the subscriber stored in the storage means].

Matern fails to disclose means processing channel errors.

However, Schouhamer teaches means process channel errors, and maintaining and repairing the channel (column 6, lines 4-30).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the error correction method for the transfer of word-wise arranged data of Schouhammer in the control means peripheral of Matern.

The modification of the invention would offer the capability of the error correction

method for the transfer of word-wise arranged data such as the system would combine

the redundancy introduced into data transfer with the error correction.

9.   **Claims 32 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Matern in view of Bachhuber.

Regarding **claim 32**, Matern discloses a private branch exchange system

(column 1, lines 11-14), (which reads on claimed "a voice mail service for a private

switching system"), comprising:

means (30 on FIG. 1) setting a subscriber's message (column 11, line 62 "voice

mail messages") in memory (column 11, line 58 to column 12, line 4) [The voice mail

messages are recorded in the storage means];

means (column 14, line 30 "detector means") directly and automatically

determining a communication state of the subscriber (column 14, line 28 "a signal") in

response to an incoming communication (column 14, lines 29-40) [The detector means

supply a signal to the control means and the voice mail system is actuated];

means transferring the incoming communication to a system matching section

(12 on FIG. 6) wherein the system matching section interfaces all information in relation

to a call (column 14, line 32 "the incoming call") and management of a call including

call-related messages (column 14, line 40 "a recorded message"), exchanging voice

messages (column 15, line 17 "message exchange"), recording and reproduction of

processed voice data (column 15, line 29 "the voice mail system") and performs

interfacing for communication between a control section (12 on FIG. 6) and the private

switching system, which is a system of higher rank (column 14, lines 29-44) [The control

means uses the extension number supplied to cause the switching means to connect

the incoming cal];

means providing guide service (column 12, line 40 "music on hold feature") to a

control section (column 12, lines 37-42) [The control means controlled all the features

provided by the system];

means accessing data of the subscriber in the memory by the control section

(column 15, lines 22-25) [The control means evaluate the data supplied by the

subscriber stored in the storage means];

means (12 on FIG. 4) providing the data and a control signal (column 10, line 31

"tone generating process") to a processor (column 10, lines 29-36) [The microprocessor

is programmed to implement an efficient tone generating process]; and

outputting the subscriber's message (column 15, lines 25-33) [The control means

transmits the message to the subscriber].

Matern discloses a switching means system but fails to disclose the private

switching system, which is a system of higher rank.

However, Bachhuber teaches the private switching system, which is a system of

higher rank (column 1, lines 14-29) [The program-control module in the switching unit

hierarchy which ranks higher over the program, constructs a system bus connecting all the program].

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to use the system of higher rank of Bachhuber in the control means peripheral of Matern.

The modification of the invention would offer the capability of the system of higher rank such as the system would take the different number and type of program control modules for error output equipment.

Regarding **claim 34**, Matern discloses an interface section to interface with the private switching system (column 14, lines 29-44);

a buffer to store data transmitted to and received from the private switching system in a prescribed protocol (column 12, lines 11-19); and

a memory to store call-related messages and data transmitted or received between the private switching system and the control circuit (column 7, lines 9-26).

Response to Arguments

10.   Applicant's arguments with respect to **claims 1-5, 13-15, 19-28 and 32-34** have

been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Gerald Gauthier whose telephone number is (703) 305-

0981. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Fan Tsang can be reached on (703) 305-4895. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

g.g.

April 14, 2004

FAN TSANG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600